



Tubing



Water skiing



Wake boarding



**Teak boarding or
Platform dragging**



Knee boarding



Wake surfing

Figure 1. Images of various types of towed water sports activities.



Figure 2. The ski boat used for the current evaluation.



Figure 3. Inboard engine on the evaluated ski boat.

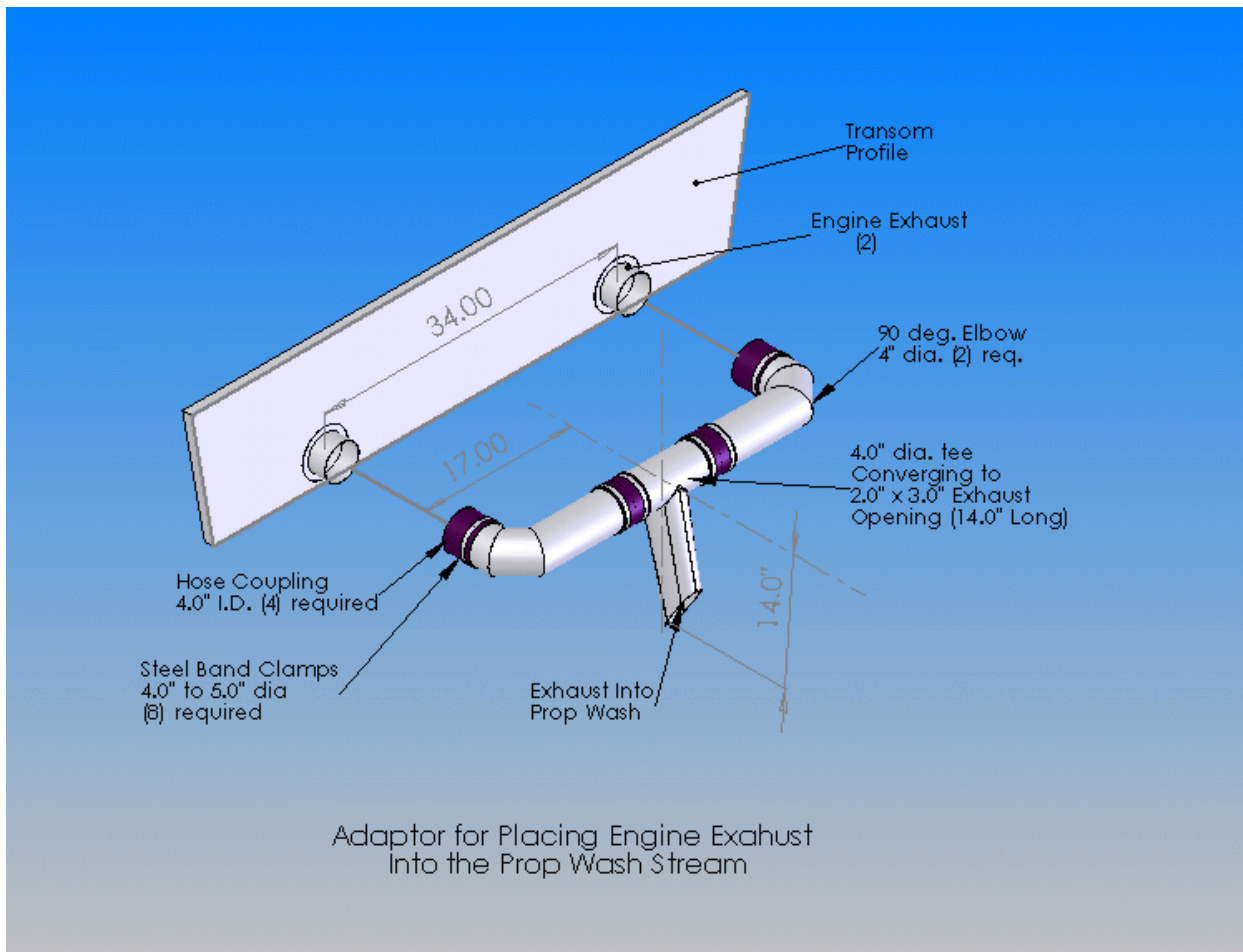


Figure 4. Diagram of Fresh air exhaust system with dimensions.



Figure 5. Installation of the FAE system.



Figure 6. Rear view of FAE system



Figure 7. Side view of FAE system.

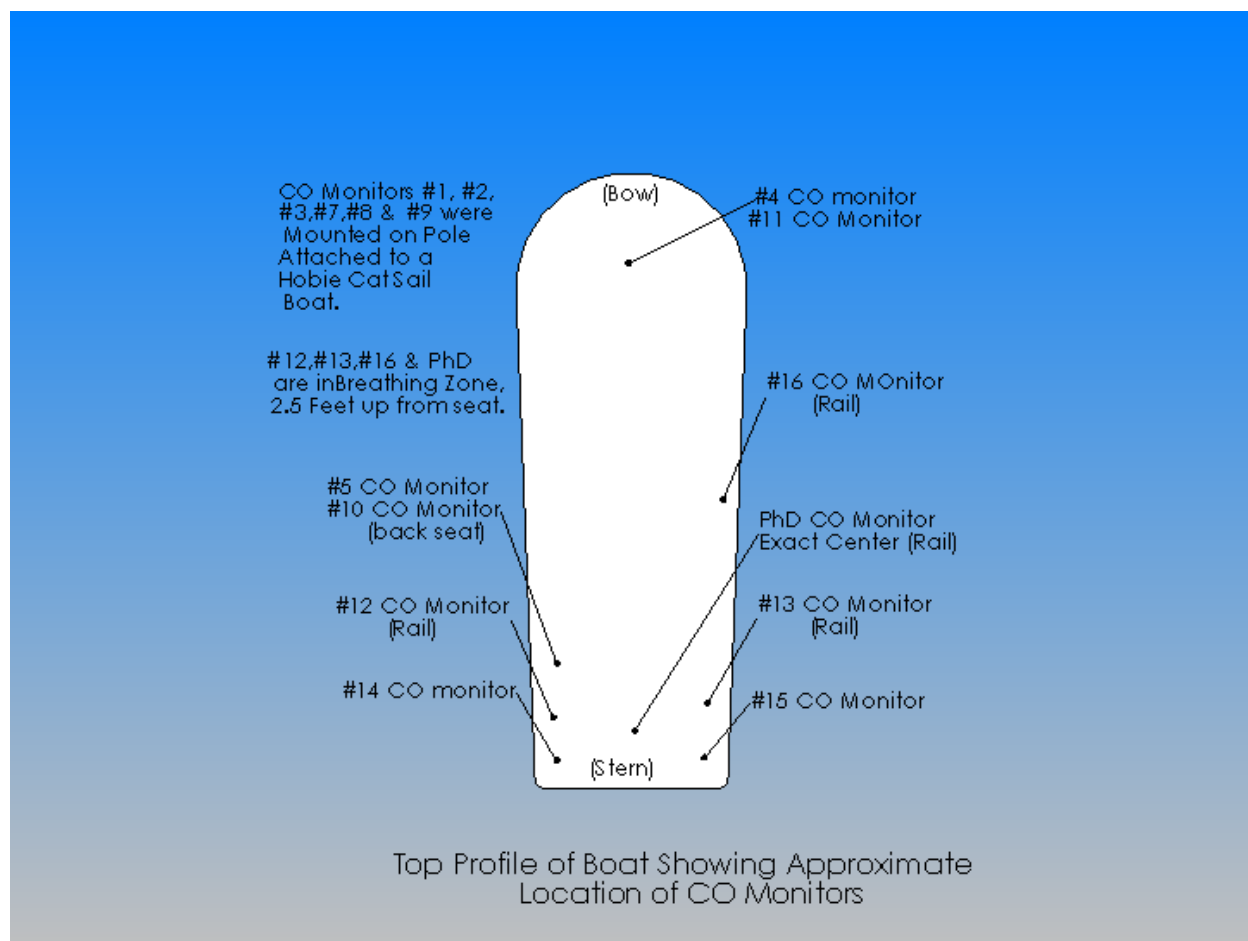


Figure 8. Sampling locations on ski boat.



Figure 9. Hobie Cat catamaran that was towed behind ski boat at various distances.



Figure 10. Individual performing wake surfing at approximately 10 mph.

**Performance Without FAE System
on CO Concentration Behind the Boat
(5 Miles Per Hour)**

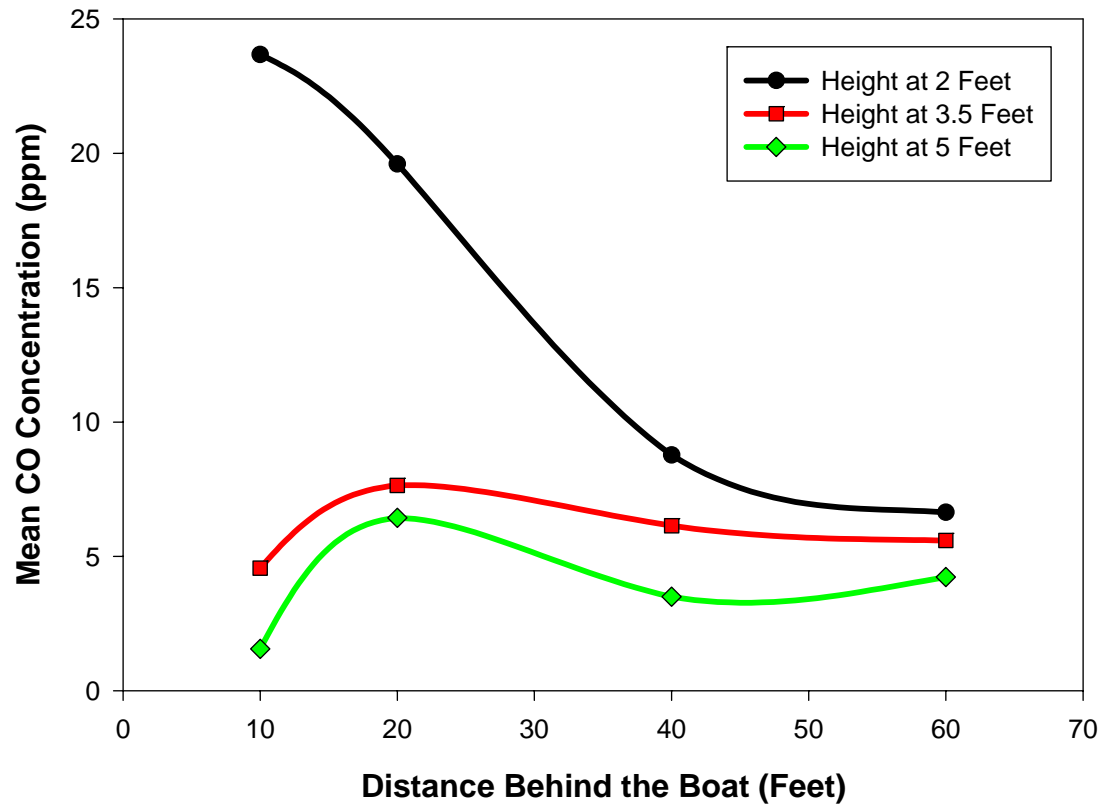


Figure 11. Mean CO concentrations at various heights and distances behind the boat operating without the FAE system at 5 mph.

Performance of FAE System on CO Concentrations Behind the Boat (5 Miles Per Hour)

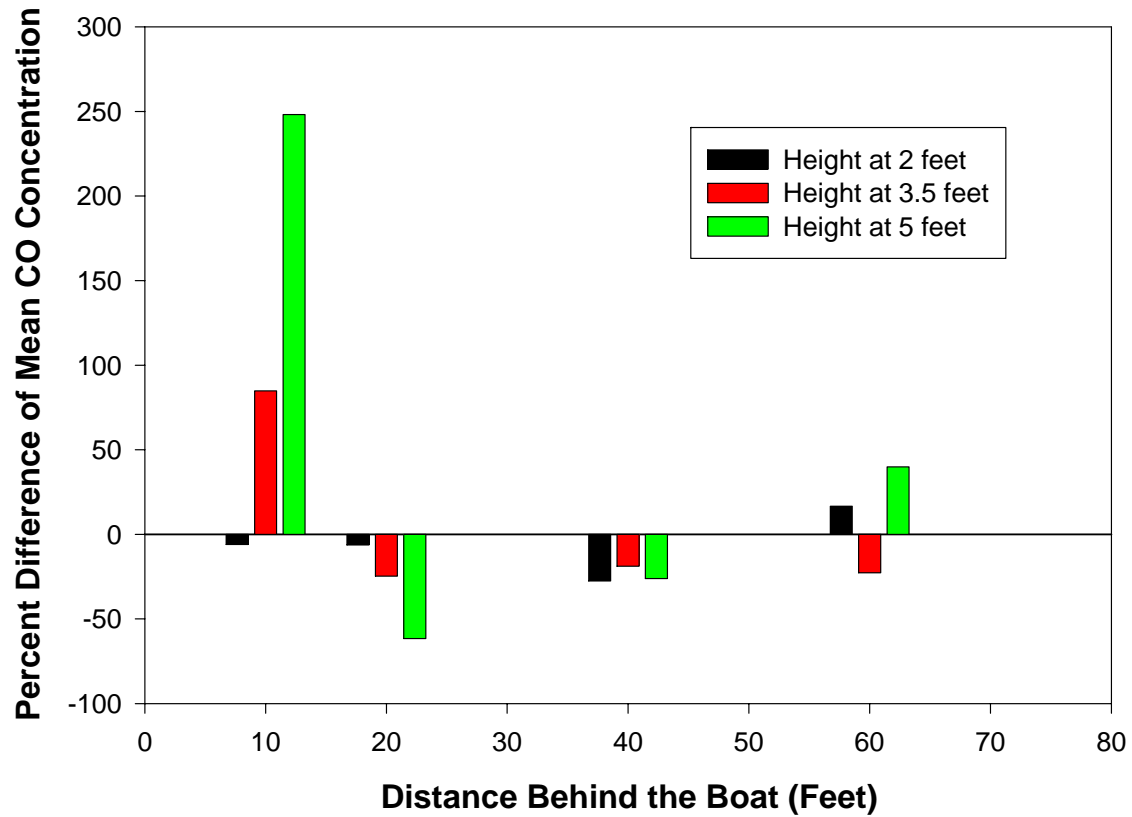


Figure 12. Percent Mean CO difference (with vs without FAE) at various heights and distances behind the boat operating at 15 mph.

Performance Without FAE System on CO Concentration Behind the Boat (10 Miles Per Hour)

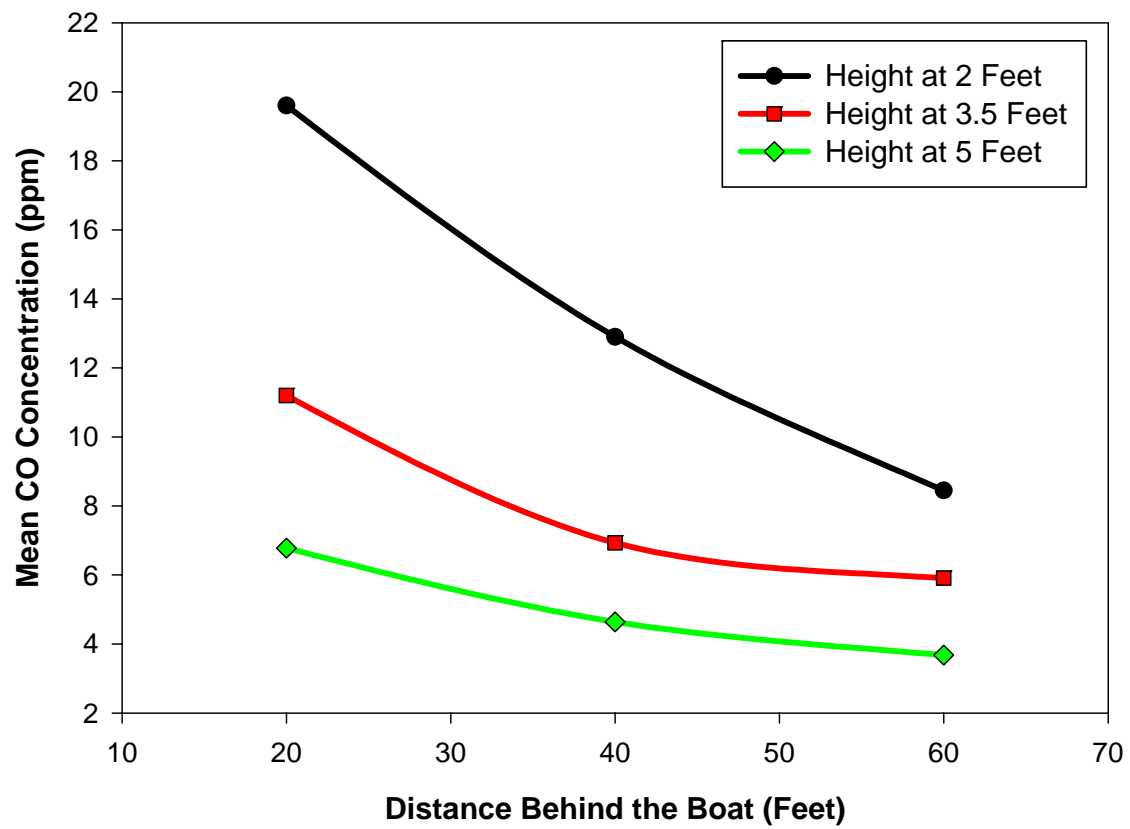


Figure 13. Mean CO concentrations at various heights and distances behind the boat operating without the FAE system at 10 mph.

Performance Without FAE System on CO Concentration Behind the Boat (15 Miles Per Hour)

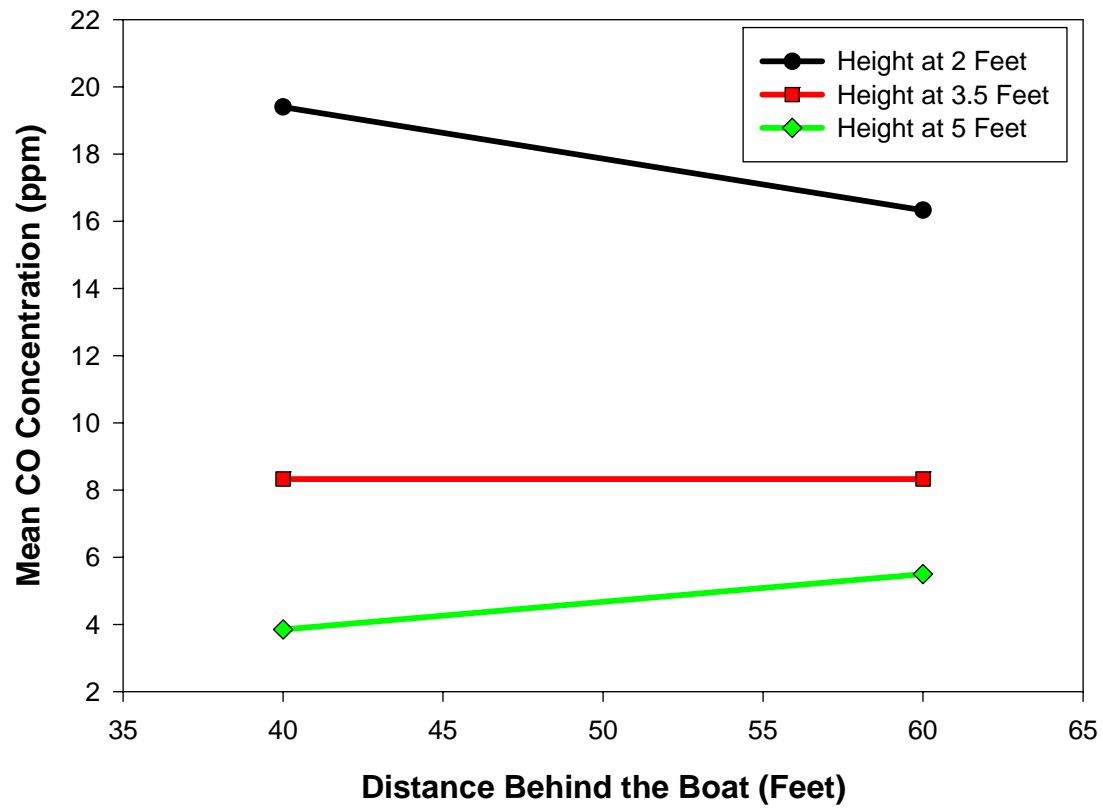


Figure 14. Mean CO concentrations at various heights and distances behind the boat operating without the FAE system at 15 mph.

Performance of FAE System on CO Concentration Behind the Boat (15 Miles Per Hour)

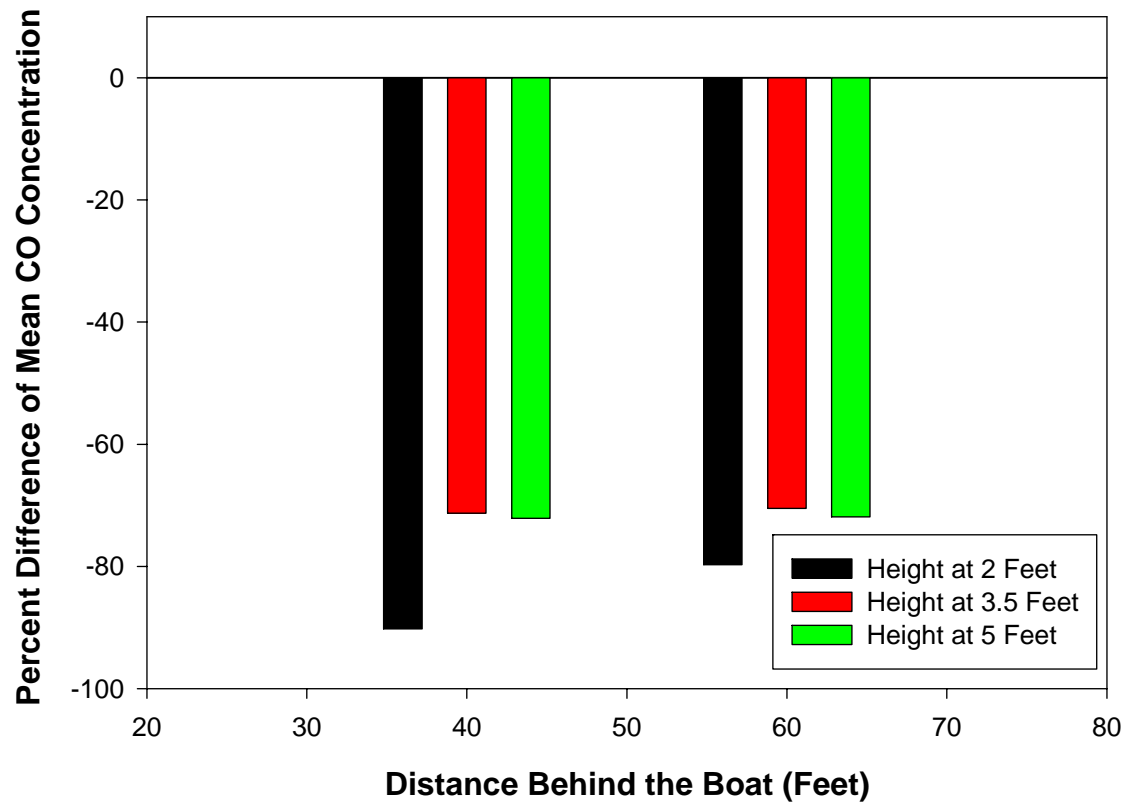


Figure 15. Percent Mean CO Reductions (with vs without FAE) at various heights and distances behind a boat operating at 15 mph.

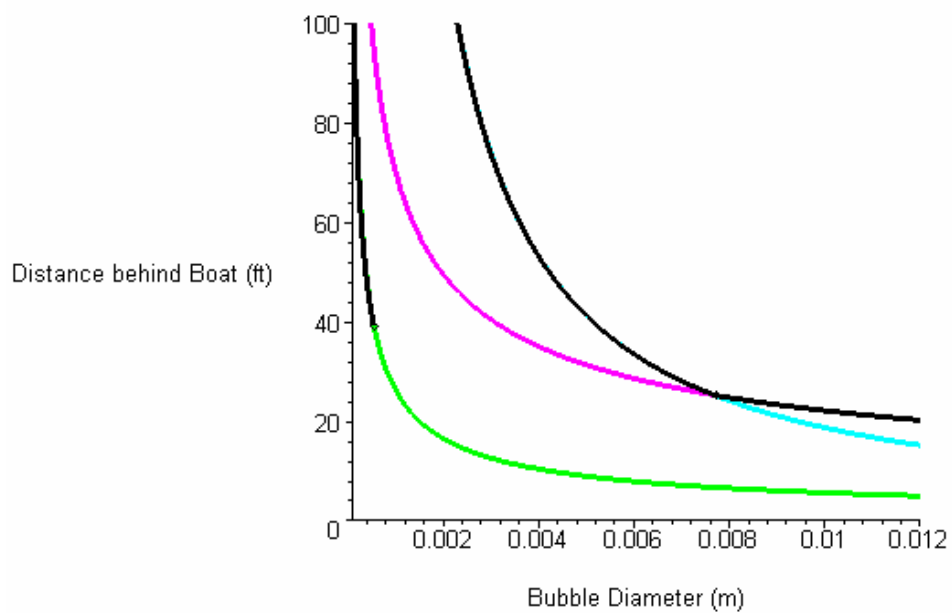


Figure 16. Distance Behind Boat that Bubbles Break Surface at 10mph
 Black = Combined equations within their own Reynolds' Number Range
 Green = Unlimited Stokes, Blue = Unlimited Intermediate, Purple = Unlimited Newton